

AMENDMENTS TO THE SPECIFICATION

IN THE ABSTRACT OF THE DISCLOSURE:

Please cancel the Abstract and insert the new Abstract that appears at the end of this Reply.

AMENDMENTS TO THE SPECIFICATION

Page 3

The paragraph beginning at line 18 has been amended as follows:

It is, therefore, an object of the present invention to provide an optical writing device which is capable of holding an optical writing head in an optimal position even when the optical writing device does not fit in a space defined in an image forming apparatus for mounting the optical mounting apparatus, as well as to provide an image forming apparatus provided with such an optical writing device.

Page 4

The paragraph beginning at line 9 has been amended as follows:

Among the parts constituting the support unit, the connecting member is made more easily deformable than any one of the writing head, the first support member, and the second support member. The material and configuration of the connecting member are so designed that the connecting member becomes easily deformable.

Page 4

The paragraph beginning at line 15 has been amended as follows:

Thus, upon receiving an external force, the connecting member is deformed first in the support unit. Therefore, even when the

optical writing device does not fit in an internal space of the image forming apparatus, it is possible to prevent a large force from working on the first and the second support members supporting the writing head at a predetermined position, hence, on the writing head itself.

Page 6

The Heading beginning at line 1 has been amended as follows:

DETAILED DESCRIPTION OF THE PRESENT INVENTION ~~PREFERRED EMBODIMENTS~~

Page 8

The paragraph beginning at line 2 has been amended as follows:

Below the image forming section 210 are disposed a manual feed tray 254, a paper cassette 251, and a duplex unit 255. Further below the image forming section 210 is disposed the multi-tier sheet feeding desk 300 including paper cassettes 252 and 253.

Page 9

The paragraph beginning at line 12 has been amended as follows:

A charging process, an exposure process, a developing process, an image transfer process, and a cleaning process are performed around the photosensitive drum 222 by the electrostatic charger 223, optical writing device 227, developing unit 224, image

transfer device 225, static eliminator 229, and cleaner 226. At the image forming position between the photosensitive drum 222 and the image transfer device 225, an unfixed developer image formed based on image data is transferred to a surface of the recording sheet. Thereafter, the recording sheet is guided to the fixing unit 217 located downstream of the image forming position in the sheet feeding path. The fixing unit 217 applies heat and pressure to the unfixed developer image on the recording sheet, thereby fixing the developer image onto the recording sheet.

Page 12

The paragraph beginning at line 20 has been amended as follows:

In the ~~The present invention is characterized in that the~~ connecting member 23 is so constructed as to be most easily deformable in the optical writing device 227. The "easily deformable", as used herein, means that the connecting member 23 can be deformed easily by an external force because the connecting member 23 is formed of a material having a low modulus of elasticity or shaped to have a small geometrical moment of inertia, or for a like reason. The deformation of the connecting member 23 is not necessarily based on elastic deformation but plastic deformation which occurs quickly due to an external force. However, it is not preferable to form the connecting member 23

using a material which makes the connecting member 23 susceptible to brittle fracture.

Page 15

The paragraph beginning at line 8 has been amended as follows:

As shown in Fig. 6, the second block 22 further includes an adjusting screw 61 and a third adjustment member 63 which turns about a rotating shaft 62 with rotation of the adjusting screw 61, as position adjustment members for moving the LED writing head 11 in the arrow G direction. In this embodiment, the above-described adjusting screws 41, 51, and 61 constitute the manipulation members defined by the present invention.

Page 18

The paragraph at line 4 has been amended as follows: Next, the method of focus adjustment in the optical writing device 227 will be described. Preferably, the optical writing device 227 is subjected to various adjustments such as focus adjustment and inclination adjustment utilizing a suitable adjustment mechanism before the writing device 227 is mounted to the digital image forming apparatus 1, which makes the adjustments efficient and accurate. Specifically, such adjustments are achieved by changing the position of the LED writing head 11 mounted to the adjustment mechanism. In changing the position of the LED writing head 11 the

adjusting screws 41, 51, and 61 of the first and second blocks 21 and 22 are used. As shown in Figs. 4, 5, and 6, the LED writing head 11 can be moved in each of the arrow C direction, arrow F direction and arrow G direction by appropriately rotating each of the adjusting screws 41, 51, and 61. The change of the position of the LED writing head 11 can also be achieved in a state where the writing head 11 is mounted to the optical writing device 227.

Page 18

The paragraph at line 22 has been amended as follows:

The flowchart of Fig. 8 shows an example of such adjustment process. First, optical writing device 227 of the above-described construction is assembled (S1). Subsequently, the optical writing device 227 is mounted to the adjustment mechanism (S2). Then, the optical writing device 227 is adjusted by manipulation of the adjustment mechanism including manually rotating the adjusting screws 41, 51, and 61 for focusing (S3). After the adjustment using the adjustment mechanism, the optical writing device 227 is mounted to the digital image forming apparatus 1 (S4). Thereafter, image formation based on predetermined image data is performed to check the focused state (S5). Efficient and accurate focus adjustment can be achieved through these process steps.

Page 19

The paragraph at line 9 has been amended as follows:

Fig. 9 illustrates a focus adjustment jig 81, which is an example of adjustment mechanism used at S2 and S3 of the flowchart of Fig. 8. The focus adjustment jig 81 is used for adjusting the position of the LED writing head 11 in the optical writing device 227 before the optical writing device 227 is mounted to the digital image forming apparatus 1. The configuration of the focus adjustment jig 81 is disclosed in Japan Patent Laid-open Publication No. 2003-173073, the entire contents of which are incorporated herein by reference. Fig. 9 schematically illustrates a state where the optical writing device 227 fitted to the focus adjustment jig 81 is under adjustment. As shown in Fig. 9, the focus adjustment jig 81 incorporates a CCD camera 82 therein. The CCD camera 82 is set on an automatic stage 84 connected to a motor 83. By driving the motor 83, the automatic stage 84 and the CCD camera 82 set thereon can be moved in the arrow Y direction (which corresponds to the primary scanning direction K). Thus, the CCD camera 82 successively captures an image on a line (focus position) which is indicated by a dashed dotted line in Fig. 9 and which corresponds to a surface of the photosensitive drum. The focus adjustment jig 81 is connected to a personal computer (PC), and the image captured by the CCD camera 82 is shown on the display of the

personal computer (PC). The line indicated by the chain line is about 300mm in the case of A3 width. When the resolution is 600 dpi, about 7000 light emitting elements are aligned on the line at a pitch of about 42.3  $\mu\text{m}$ . Therefore, dots (about 60  $\mu\text{m}$  in diameter) corresponding to the light emitting elements are marked on the line. While monitoring the magnified image displayed on the personal computer (PC), each of the adjusting screws 41, 51, and 61 is rotated so that the dots conform to the predetermined conditions, thereby performing focus adjustment. The use of the focus adjustment jig 81 enables accurate focus adjustment of the optical writing device 227.

Page 20

The paragraph at line 17 has been amended as follows:

Instead of displaying a magnified image of an image captured by the CCD camera 82 on the display for checking the focused state, computation may be performed based on data obtained by the CCD camera 82 to display the spot size, the amount of a positional deviation or the amount of adjustment by each of the adjusting screws 41, 51, and 61 numerically on the display. Alternatively, both of the image and the numeric values may be displayed either at a time or in a switched fashion. With such an arrangement, fluctuations of adjustment due to variations among individual



operators and the like can be lessened as compared with visual adjustment, which enhances the efficiency of adjustment.

Page 23

The paragraph at line 26 has been amended as follows:

The optical writing device, which includes the support unit comprising the first and second support members supporting opposite ends of the writing head and the connecting member which interconnects the first support member and the second support member and which is most easily deformable by an external force among the parts of the optical writing device, is used as an exposure device in an electrophotographic image forming apparatus. Therefore, when the size of the optical writing device does not ~~fit~~ the fit in the size of a space for mounting the optical writing device, the connecting member can be deformed to prevent the writing head and the first and the second support members from being heavily influenced by an external force exerted by the image forming apparatus on the optical writing device.